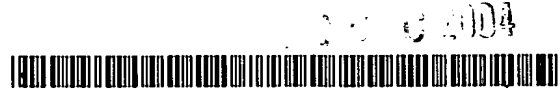


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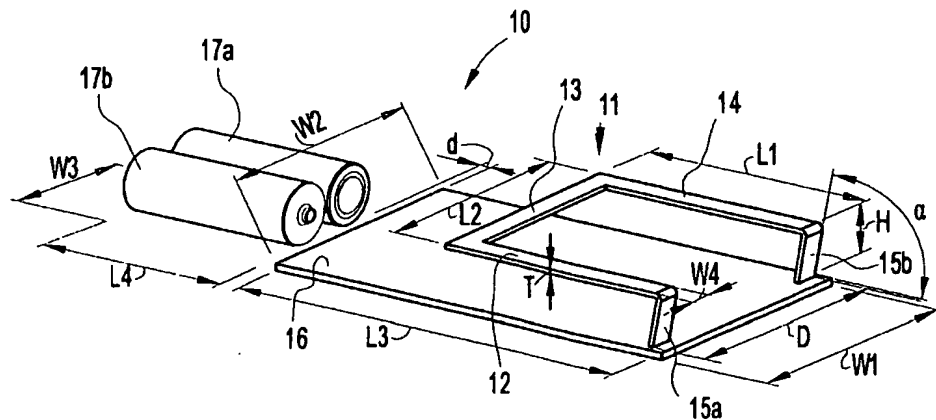
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(54) Title: WIDEBAND ANTENNA DEVICE WITH EXTENDED GROUND PLANE IN A PORTABLE DEVICE



(57) Abstract: An antenna device for a portable device has an antenna loop (11) of conducting material to be connected to radio circuitry in the portable device. The antenna loop (11) is positioned opposite a ground plane of a PCB (16). Also, the antenna device also comprises at least one battery, which is positioned in the extension of a first side of the PCB (16), and acts as an extension of the ground plane of the PCB (16).

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According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H01Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, IBM-TDB		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 020 136 A (PATSIOKAS STELIOS J ET AL) 28 May 1991 (1991-05-28) abstract; figures 2-3A column 3, line 27-65	1-13
Y	column 4, line 3-18	1-13
Y	WO 01 76006 A (AVANTEGO AB ;BJOERKMAN TONY (SE); SJOEHOLM JAN (SE)) 11 October 2001 (2001-10-11) abstract; figures 2,3,6 page 5, line 21 -page 6, line 19	1-13
A	US 6 266 019 B1 (HICKLE RANDY D ET AL) 24 July 2001 (2001-07-24) abstract; figures 7A-B column 8, line 10-31,40-47	1-13
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Date of the actual completion of the international search 18 November 2003		Date of mailing of the international search report 20/01/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016		Authorized officer Cordeiro, J-P

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